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09/653,983	09/01/2000	William E. Glenn	FAU-7036	5678

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EXAMINER

HANNETT, JAMES M

ART UNIT	PAPER NUMBER
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2612

7

DATE MAILED: 07/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/653,983

Applicant(s)

GLENN, WILLIAM E.

Examiner

James M Hannett

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 April 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-50 is/are pending in the application.
- 4a) Of the above claim(s) 20-23, 36, 45, 46 and 50 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 12-15, 18, 19, 24-33, 35-42, 44 and 47-49 is/are rejected.
- 7) ☒ Claim(s) 11, 16, 17, 34 and 43 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 September 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

Election/Restrictions

Applicant's election of Species I in the reply filed on 4/15/2004 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Applicant's election without traverse of Species I in the reply filed on 4/15/2004 is acknowledged.

The applicant should note that Examiner Matthew Rosendale is no longer the examiner assigned to this case. All future office actions will be handled by Examiner James M. Hannett.

Drawings

New corrected drawings are required in this application because The drawings are hand drawn on lined paper. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Information Disclosure Statement

The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless

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the references have been cited by the examiner on form PTO-892, they have not been considered.

Specification

This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Color video camera system that distributes light via a pellicle beam-splitter to a luminance image sensor and a color image sensor.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1: Claims 1, 2, 7, 9, 12, 14, 26, 27, 32, 33 and 47-49 are rejected under 35 U.S.C. 102(e) as being anticipated by USPN 6,356,379 Kreymerman.

2: As for Claim 1, Kreymerman teaches on Column 2, Lines 40-64 and depicts in Figure 2 a method for producing electric video signals representative of color images of a scene, comprising the steps of: providing a luminance sensor (120) and a color sensor (150) having a color filter thereover; providing a beam-splitter (251), and providing a motion picture film camera type of

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lens system (105) that focuses light from said image, via said beam-splitter (251), onto said luminance sensor (120) and said color sensor (150); and producing electronic video signals from outputs of said luminance sensor (120) and said color sensor (150).

3: In regards to Claim 2, Kreymerman teaches on Column 3, Lines 8-9 and depicts in Figure 2 the step of providing a beam-splitter comprises providing a pellicle beam-splitter (251).

4: As for Claim 7, Kreymerman teaches on Column 3, Lines 3-8 the step of providing a pellicle beam-splitter comprises providing a pellicle that is also operative as an opto-acoustical low pass filter.

5: As for Claim 9, Kreymerman teaches on Column 3, Lines 30-33 the step of applying ultrasonic excitation to said pellicle to implement optical low pass pre-filtering of light from said image that is focused on said color sensor (150). The reflected channel corresponds to the light sent to the color image sensor (150) as depicted in Figure 2.

6: In regards to Claim 12, Kreymerman teaches on Column 3, Lines 30-33 the step of applying ultrasonic excitation to said pellicle to implement optical low pass pre-filtering of light from said image that is focused on said color sensor (150). The reflected channel corresponds to the light sent to the color image sensor (150) as depicted in Figure 2. This is viewed by the examiner as optical pre-filtering because it filters the light (using a low-pass filter) before it is incident on the color image sensor (150).

7: In regards to Claim 14, Kreymerman teaches on Column 3, Lines 16-20 and Lines 28-29 the step of providing optical pre-filtering (low pass filtering) comprises providing a grating in the path of light from said image that is focused on said color sensor (150). The uniform distortion of

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the surface of the pellicle membrane caused by the acoustic harmonics is viewed to be an acoustically formed diffraction grating.

8: In regards to Claim 26, Kreymerman teaches on Column 2, Lines 40-64 and depicts in Figure 2 an apparatus for producing electronic video signals representative of color images of a scene, comprising: a luminance sensor (120); a color sensor (150) having a color filter thereover; a beam-splitter (251); a film camera type of lens system (105), arranged to focus light from said image, via said beam-splitter (251), onto said luminance sensor (120) and said color sensor (150); and means for producing electronic video signals from outputs of said luminance sensor (120) and said color sensor (150).

9: As for Claim 27, Kreymerman teaches on Column 3, Lines 8-9 and depicts in Figure 2 the step of providing a beam-splitter comprises providing a pellicle beam-splitter (251).

10: As for Claim 32, Kreymerman teaches on Column 3, Lines 3-8 the step of providing a pellicle beam-splitter comprises providing a pellicle that is also operative as an opto-acoustical low pass filter.

11: In regards to Claim 33, Kreymerman teaches on Column 3, Lines 30-33 the step of applying ultrasonic excitation to said pellicle to implement optical low pass pre-filtering of light from said image that is focused on said color sensor (150). The reflected channel corresponds to the light sent to the color image sensor (150) as depicted in Figure 2. This is viewed by the examiner as optical pre-filtering because it filters the light (using a low-pass filter) before it is incident on the color image sensor (150).

12: As for Claim 47, Kreymerman teaches on Column 2, Lines 40-64 and depicts in Figure 2 a method for producing electronic video signals representative of color images of a scene,

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comprising the steps of: providing a luminance sensor (120) and a color sensor (150) having a color filter thereover; providing a pellicle beam-splitter (251), and providing a lens system (105) that focuses light from said image, via said beam-splitter (251), onto said luminance sensor (120) and said color sensor (150); and producing electronic video signals from outputs of said luminance sensor (120) and said color sensor (150). Kreymerman teaches on Column 3, Lines 8-9 and depicts in Figure 2 the step of providing a beam-splitter comprises providing a pellicle beam-splitter (251).

13: In regards to Claim 48, Kreymerman teaches on Column 3, Lines 3-8 the step of providing a pellicle beam-splitter comprises providing a pellicle that is also operative as an opto-acoustical low pass filter.

14: As for Claim 49, Kreymerman teaches on Column 3, Lines 30-33 the step of applying ultrasonic excitation to said pellicle to implement optical low pass pre-filtering of light from said image that is focused on said color sensor (150). The reflected channel corresponds to the light sent to the color image sensor (150) as depicted in Figure 2.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15: Claims 3-6, 8, 10, 13, 15, 24, 25, 28-31, 37-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,356,379 Kreymerman in view of USPN 4,107,732 Adcock et al.

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16: As for Claim 3, Kreymerman teaches the use of a camera that uses a beam splitter to distribute light to a luminance image sensor and a color image sensor. However, Kreymerman does not teach the specifics of the color image sensor or that the color image sensor can be a color sensor with a two-color checkerboard filter pattern.

Adcock et al teaches on Column 8, Lines 58-63 and in Figure 1 the use of a television camera system that uses a beam splitter (13) to distribute light to a luminance image sensor (14) and a color image sensor (15). Adcock et al further teaches that it is advantageous to design the color image sensor to receive two primary colors Column 10, Lines 8-13. Adcock et al teaches that this is advantageous because it improves the color television system and has better image quality.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a two color image sensor as taught by Adcock et al for the color image sensor of Kreymerman in order to improve the color television system and improve image quality.

Adcock et al does not teach that the two-color image sensor can have a checkerboard arrangement. However, Official notice is taken that it was well know in the art at the time the invention was made to design multiple color image sensors that distribute the different color pixels using a checkerboard pattern in order to improve image quality.

Therefore, it would have been obvious to one or ordinary skill in the art at the time the invention was made to arrange the color pixels in the image sensor of Kreymerman in view of Adcock et al in a checkerboard arrangement in order to improve image quality.

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17: In regards to Claim 4, Kreymerman teaches the use of a camera that uses a beam splitter to distribute light to a luminance image sensor and a color image sensor. However, Kreymerman does not teach the specifics of the color image sensor or that the color image sensor can be a color sensor with a two-color checkerboard filter pattern.

Adcock et al teaches on Column 8, Lines 58-63 and in Figure 1 the use of a television camera system that uses a beam splitter (13) to distribute light to a luminance image sensor (14) and a color image sensor (15). Adcock et al further teaches that it is advantageous to design the color image sensor to receive two primary colors Column 10, Lines 8-13. Adcock et al teaches that this is advantageous because it improves the color television system and has better image quality.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a two color image sensor as taught by Adcock et al for the color image sensor of Kreymerman in order to improve the color television system and improve image quality.

Adcock et al does not teach that the two-color image sensor can have a checkerboard arrangement. However, Official notice is taken that it was well know in the art at the time the invention was made to design multiple color image sensors that distribute the different color pixels using a checkerboard pattern in order to improve image quality.

Therefore, it would have been obvious to one or ordinary skill in the art at the time the invention was made to arrange the color pixels in the image sensor of Kreymerman in view of Adcock et al in a checkerboard arrangement in order to improve image quality.

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18: As for Claim 5, Adcock et al further teaches on Column 10, Lines 11-14 that the two-colors used in the color filter can be red and blue.

19: In regards to Claim 6, Adcock et al further teaches on Column 10, Lines 10-20 that although the preferred embodiment uses red and blue color filters for the color image sensor, other color schemes may be used with the present invention. However, Adcock et al does not specifically state that red and green pixels can be used.

Official notice is taken that one of ordinary skill in the art at the time the invention was made would have attempted to use red and green pixels in view of the statement of Adcock et al that other color schemes may be used with the present invention.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use red and green pixels in the image sensor of Adcock et al since Adcock et al teaches other color schemes may be used with the present invention.

20: In regards to Claim 8, Kreymerman further teaches on Column 3, Lines 3-8 the step of providing a pellicle beam-splitter comprises providing a pellicle that is also operative as an opto-acoustical low pass filter.

21: In regards to Claim 10, Kreymerman further teaches on Column 3, Lines 30-33 the step of applying ultrasonic excitation to said pellicle to implement optical low pass pre-filtering of light from said image that is focused on said color sensor (150). The reflected channel corresponds to the light sent to the color image sensor (150) as depicted in Figure 2.

22: As for Claim 13, Kreymerman further teaches on Column 3, Lines 30-33 the step of applying ultrasonic excitation to said pellicle to implement optical low pass pre-filtering of light from said image that is focused on said color sensor (150). The reflected channel corresponds to

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the light sent to the color image sensor (150) as depicted in Figure 2. This is viewed by the examiner as optical pre-filtering because it filters the light (using a low-pass filter) before it is incident on the color image sensor (150).

23: As for Claim 15, Kreymerman further teaches on Column 3, Lines 16-20 and Lines 28-29 the step of providing optical pre-filtering (low pass filtering) comprises providing a grating in the path of light from said image that is focused on said color sensor (150). The uniform distortion of the surface of the pellicle membrane caused by the acoustic harmonics is viewed to be an acoustically formed diffraction grating.

24: In regards to Claim 24, Kreymerman teaches the use of providing a pellicle beam-splitter. Kreymerman does not teach that the pellicle beam-splitter can have a dichroic coating dichroic coating thereon that directs the proper proportion color components of luminance to the luminance sensor.

Adcock et al teaches on Column 3, lines 45-50 that it is advantageous to design the beam-splitter so that it reflects two primary colors of light. This defines a dichroic beam-splitter. Therefore, it is inherent that the beam-splitter of Adcock et al have a dichroic coating thereon. Adcock et al teaches that it is advantageous to use this type of beam-splitter because it allows only the primary colors pertinent to the two-color image sensor to be incident on the two-color image sensor.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to enable the beam-splitter of Kreymerman to be a dichroic beam-splitter so that only the primary colors pertinent to the two-color image sensor would be incident on the two-color image sensor.

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25: As for Claim 25, Kreymerman teaches the use of providing a pellicle beam-splitter.

Kreymerman does not teach that the pellicle beam-splitter can have a dichroic coating dichroic coating thereon that directs the proper proportion color components of luminance to the luminance sensor.

Adcock et al teaches on Column 3, lines 45-50 that it is advantageous to design the beam-splitter so that it reflects two primary colors of light. This defines a dichroic beam-splitter. Therefore, it is inherent that the beam-splitter of Adcock et al have a dichroic coating thereon. Adcock et al teaches that it is advantageous to use this type of beam-splitter because it allows only the primary colors pertinent to the two-color image sensor to be incident on the two-color image sensor.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to enable the beam-splitter of Kreymerman to be a dichroic beam-splitter so that only the primary colors pertinent to the two-color image sensor would be incident on the two-color image sensor.

26: As for Claim 28, Kreymerman teaches the use of a camera that uses a beam splitter to distribute light to a luminance image sensor and a color image sensor. However, Kreymerman does not teach the specifics of the color image sensor or that the color image sensor can be a color sensor with a two-color checkerboard filter pattern.

Adcock et al teaches on Column 8, Lines 58-63 and in Figure 1 the use of a television camera system that uses a beam splitter (13) to distribute light to a luminance image sensor (14) and a color image sensor (15). Adcock et al further teaches that it is advantageous to design the color image sensor to receive two primary colors Column 10, Lines 8-13. Adcock et al teaches

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that this is advantageous because it improves the color television system and has better image quality.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a two color image sensor as taught by Adcock et al for the color image sensor of Kreymerman in order to improve the color television system and improve image quality.

Adcock et al does not teach that the two-color image sensor can have a checkerboard arrangement. However, Official notice is taken that it was well know in the art at the time the invention was made to design multiple color image sensors that distribute the different color pixels using a checkerboard pattern in order to improve image quality.

Therefore, it would have been obvious to one or ordinary skill in the art at the time the invention was made to arrange the color pixels in the image sensor of Kreymerman in view of Adcock et al in a checkerboard arrangement in order to improve image quality.

27: In regards to Claim 29, Kreymerman teaches the use of a camera that uses a beam splitter to distribute light to a luminance image sensor and a color image sensor. However, Kreymerman does not teach the specifics of the color image sensor or that the color image sensor can be a color sensor with a two-color checkerboard filter pattern.

Adcock et al teaches on Column 8, Lines 58-63 and in Figure 1 the use of a television camera system that uses a beam splitter (13) to distribute light to a luminance image sensor (14) and a color image sensor (15). Adcock et al further teaches that it is advantageous to design the color image sensor to receive two primary colors Column 10, Lines 8-13. Adcock et al teaches

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that this is advantageous because it improves the color television system and has better image quality.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a two color image sensor as taught by Adcock et al for the color image sensor of Kreymerman in order to improve the color television system and improve image quality.

Adcock et al does not teach that the two-color image sensor can have a checkerboard arrangement. However, Official notice is taken that it was well know in the art at the time the invention was made to design multiple color image sensors that distribute the different color pixels using a checkerboard pattern in order to improve image quality.

Therefore, it would have been obvious to one or ordinary skill in the art at the time the invention was made to arrange the color pixels in the image sensor of Kreymerman in view of Adcock et al in a checkerboard arrangement in order to improve image quality.

28: As for Claim 30, Adcock et al further teaches on Column 10, Lines 11-14 that the two-colors used in the color filter can be red and blue.

29: In regards to Claim 31, Adcock et al further teaches on Column 10, Lines 10-20 that although the preferred embodiment uses red and blue color filters for the color image sensor, other color schemes may be used with the present invention. However, Adcock et al does not specifically state that red and green pixels can be used.

Official notice is taken that one of ordinary skill in the art at the time the invention was made would have attempted to use red and green pixels in view of the statement of Adcock et al that other color schemes may be used with the present invention.

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to use red and green pixels in the image sensor of Adcock et al since Adcock et al teaches other color schemes may be used with the present invention.

30: As for Claim 37, Kreymerman teaches on Column 2, Lines 40-64 and depicts in Figure 2 a method for producing electronic video signals representative of color images of a scene, comprising the steps of: providing a luminance sensor (120) and a color sensor (150) having a color filter thereover, providing a beam-splitter (251), and providing a lens system (105) that focuses light from said image, via said beam-splitter (251), onto said luminance sensor (120) and said color sensor (150); and producing electronic video signals from outputs of said luminance sensor (120) and said color sensor (150). Kreymerman teaches the use of a camera that uses a beam splitter to distribute light to a luminance image sensor and a color image sensor. However, Kreymerman does not teach the specifics of the color image sensor or that the color image sensor can be a color sensor with a two-color checkerboard filter pattern.

Adcock et al teaches on Column 8, Lines 58-63 and in Figure 1 the use of a television camera system that uses a beam splitter (13) to distribute light to a luminance image sensor (14) and a color image sensor (15). Adcock et al further teaches that it is advantageous to design the color image sensor to receive two primary colors Column 10, Lines 8-13. Adcock et al teaches that this is advantageous because it improves the color television system and has better image quality.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a two color image sensor as taught by Adcock et al for the color

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image sensor of Kreymerman in order to improve the color television system and improve image quality.

Adcock et al does not teach that the two-color image sensor can have a checkerboard arrangement. However, Official notice is taken that it was well know in the art at the time the invention was made to design multiple color image sensors that distribute the different color pixels using a checkerboard pattern in order to improve image quality.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to arrange the color pixels in the image sensor of Kreymerman in view of Adcock et al in a checkerboard arrangement in order to improve image quality.

31: In regards to Claim 38, Kreymerman teaches on Column 3, Lines 8-9 and depicts in Figure 2 the step of providing a beam-splitter comprises providing a pellicle beam-splitter (251).

32: As for Claim 39, Adcock et al further teaches on Column 10, Lines 11-14 that the two-colors used in the color filter can be red and blue.

33: In regards to Claim 40, Adcock et al further teaches on Column 10, Lines 10-20 that although the preferred embodiment uses red and blue color filters for the color image sensor, other color schemes may be used with the present invention. However, Adcock et al does not specifically state that red and green pixels can be used.

Official notice is taken that one of ordinary skill in the art at the time the invention was made would have attempted to use red and green pixels in view of the statement of Adcock et al that other color schemes may be used with the present invention.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use red and green pixels in the image sensor of Adcock et al since Adcock et al teaches other color schemes may be used with the present invention.

34: As for Claim 41, Kreymerman further teaches on Column 3, Lines 3-8 the step of providing a pellicle beam-splitter comprises providing a pellicle that is also operative as an opto-acoustical low pass filter.

35: In regards to Claim 42, Kreymerman further teaches on Column 3, Lines 30-33 the step of applying ultrasonic excitation to said pellicle to implement optical low pass pre-filtering of light from said image that is focused on said color sensor (150). The reflected channel corresponds to the light sent to the color image sensor (150) as depicted in Figure 2.

36: Claims 18 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,356,379 Kreymerman in view of USPN 5,914,750 SanGregory et al.

37: In regards to Claim 18, Kreymerman teaches the claimed invention as discussed on Claim 1. However, Kreymerman does not teach providing a rotating mechanical shutter in the path of light from said image that is focused by said lens system (105).

SanGregory teaches on Column 2, Lines 15-16, Column 3, Lines 13-22 and depicts in Figure 8 rotating mechanical shutter (100) that works in the path of light from the image that is focused by a lens system. SanGregory teaches that is advantageous to use this shutter system because it reduces the cost and reliability of the shutter.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the rotating mechanical shutter as taught by SanGregory in the

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camera system of Kreymerman in order to provide a shutter system that reduces the cost and reliability of the shutter.

38: In regards to Claim 35, Kreymerman teaches the claimed invention as discussed on Claim 26. However, Kreymerman does not teach providing a rotating mechanical shutter in the path of light from said image that is focused by said lens system (105).

SanGregory teaches on Column 2, Lines 15-16, Column 3, Lines 13-22 and depicts in Figure 8 rotating mechanical shutter (100) that works in the path of light from the image that is focused by a lens system. SanGregory teaches that is advantageous to use this shutter system because it reduces the cost and reliability of the shutter.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the rotating mechanical shutter as taught by SanGregory in the camera system of Kreymerman in order to provide a shutter system that reduces the cost and reliability of the shutter.

39: Claims 19 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,356,379 Kreymerman in view of USPN 4,107,732 Adcock et al in further view of USPN 5,914,750 SanGregory et al.

40: As for Claim 19, Kreymerman in view of Adcock et al teaches the claimed invention as discussed on Claim 3. However, Kreymerman in view of Adcock et al does not teach providing a rotating mechanical shutter in the path of light from said image that is focused by said lens system (105).

SanGregory teaches on Column 2, Lines 15-16, Column 3, Lines 13-22 and depicts in Figure 8 rotating mechanical shutter (100) that works in the path of light from the image that is

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focused by a lens system. SanGregory teaches that is advantageous to use this shutter system because it reduces the cost and reliability of the shutter.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the rotating mechanical shutter as taught by SanGregory in the camera system of Kreymerman in view of Adcock et al in order to provide a shutter system that reduces the cost and reliability of the shutter.

41: In regards to Claim 44, Kreymerman in view of Adcock et al teaches the claimed invention as discussed on Claim 37. However, Kreymerman in view of Adcock et al does not teach providing a rotating mechanical shutter in the path of light from said image that is focused by said lens system (105).

SanGregory teaches on Column 2, Lines 15-16, Column 3, Lines 13-22 and depicts in Figure 8 rotating mechanical shutter (100) that works in the path of light from the image that is focused by a lens system. SanGregory teaches that is advantageous to use this shutter system because it reduces the cost and reliability of the shutter.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the rotating mechanical shutter as taught by SanGregory in the camera system of Kreymerman in view of Adcock et al in order to provide a shutter system that reduces the cost and reliability of the shutter.

Allowable Subject Matter

42: Claims 11, 16, 17, 34 and 43 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. USPN 3,603,723 Tan teaches the use of a video camera that has two image sensors and a beam-splitter; USPN 5,023,723 Date et al teaches the use of an image sensing apparatus having plural image sensors and plural shutters; USPN 4,853,787 Kurth teaches the use of a camera with two image sensors and a beam splitter; USPN 6,614,471 Ott teaches the use of a camera that uses a color image sensor and a luminance image sensor via a beam-splitter; USPN 6,529,640 Utagawa et al teaches the use of an image processing apparatus that uses two image sensors that receive light via a beam-splitter.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James M Hannett whose telephone number is 703-305-7880. The examiner can normally be reached on 8:00 am to 5:00 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on 703-305-4929. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


James M. Hannett

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JMH
June 23, 2004


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